

Mini-Encyclopedia of Papermaking Wet-End Chemistry  
造纸湿部化学小百科

Authored by Professor Martin A. Hubbe,  
Department of Forest Biomaterials, North Carolina State University  
Translated by Professor Lijun Wang,  
Department of Papermaking Science & Engineering, Zhejiang University of Science & Technology

[著]Martin A. Hubbe 教授, 美国北卡罗莱纳州立大学森林生物材料系  
[译]王立军教授, 浙江科技学院轻化工程系

第 1 部分 A-B

| 用语                          | 释义   |
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| Abrasion<br>磨损              | 1. The susceptibility of the surface of a paper sample to being abraded during a standard test.<br>2. The tendency of papermaking materials to abrade slitter knives, dies, etc.<br>1. 指标准测试过程中纸张样品表面被磨损的难易性<br>2. 纸张材料摩擦分切刀、模具等使其受损的倾向性 |
| Acicular<br>针尖状的            | Another word for "needle-shaped," as in the case of aragonite calcium carbonate particles<br>“Acicular”是“needle-shaped”即“针尖状”另一种说法, 如文石型碳酸钙粒子即是这种形状的   |
| Acid alum<br>酸性明矾           | A mixture of aluminum sulfate (papermakers' alum) and sulfuric acid<br>硫酸铝(造纸明矾)与硫酸的混合物  |
| Acidic paper making<br>酸性造纸 | Forming paper from stock that has a pH value usually in the range of 3.5 to 6.5, and usually in the presence of aluminum species, e.g. alum<br>采用 pH 在 3.5 到 6.5 范围内的纸料进行的抄纸, 通常使用明矾等铝化合物  |
| Acidity<br>酸度               | Ability of an aqueous sample to contribute hydrogen ions during a titration with base<br>用碱滴定的过程中, 水性样品贡献氢离子的能力  |
| Adsorption<br>吸附            | Molecules or ions coming out of aqueous solution and remaining on a surface<br>分子或离子从水溶液中脱离并残留到固体表面的过程   |
| Agglomerate<br>聚集           | The most general term indicating that small particles come together and stick<br>表示小颗粒互相靠近并粘附在一起这一过程的最常用术语   |
| Air-float clay<br>气浮高岭土     | A type of kaolin clay products that are prepared for use by an air-sorting process to obtain particles a good size range for the application<br>采用气浮分选方法而获得较好颗粒尺寸分布的一种高岭土产品  |

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| AKD<br>烷基烯酮二聚物                       | Alkyl ketene dimer, a synthetic sizing agent in the form of an aqueous dispersion of waxy particles, useful for wet-end addition<br>全称为 alkyl ketene dimer, 即烷基烯酮二聚体, 是一种合成施胶剂, 以含蜡颗粒的水性分散体形式存在, 用于湿部添加  |
| Alkaline papermaking<br>碱性造纸         | Forming paper from stock that has a pH value in the range from about 7 to 9.5<br>采用 pH 在 7 到 9.5 范围内的纸料进行的抄纸   |
| Alkalinity<br>碱度                     | Ability of an aqueous sample to contribute hydroxyl ions during a titration with acid<br>用酸滴定的过程中水性样品贡献氢氧根离子的能力  |
| Alkyl group<br>烷基                    | Part of an organic chemical compound that is made up mainly of carbon and hydrogen atoms in the approximate ratio of two hydrogen atoms per carbon atom ( <u>more strictly, it can be expressed as <math>C_nH_{2n+1}</math></u> ).<br>有机化合物基团, 主要由碳和氢组成且碳氢比例大致为 1:2 (但更严格地应表示为 $C_nH_{2n+1}$ ) |
| Alum<br>明矾                           | Papermakers' alum, having the formula $Al_2(SO_4)_3 \cdot 14H_2O$ , an effective coagulant of negatively charged particles in suspension<br>造纸明矾, 化学式为 $Al_2(SO_4)_3 \cdot 14H_2O$ , 能使负电性悬浮颗粒高效凝结的助剂  |
| Aluminum trihydrate<br>氢氧化铝,<br>三水合铝 | A very bright mineral having the same chemical composition as alum floc<br>一种白度很高的矿物, 化学成分与“alum floc”即“絮状明矾”的一样   |
| Amphoteric<br>两性的                    | Containing both positive (cationic) and negative (anionic) charged groups in a single molecule<br>形容同一分子中既含有正离子(阳离子)和也含有负离子(阴离子)基团   |
| Amylopectin<br>支链淀粉                  | The branched-chain form of natural starch molecules, making up almost 100% of starch from waxy maize, a hybrid corn<br>天然淀粉的分子结构带有支链的一类淀粉。一种被称为蜡质玉米的杂交玉米其淀粉几乎 100%为支链淀粉。   |
| Amylose<br>直链淀粉                      | The linear-chain form of natural starch molecules present in the most widely used form of corn, and also in potato and tapioca starch<br>天然淀粉的分子结构为直连的一类淀粉, 存在于普通玉米、马铃薯、木薯等的淀粉中。   |
| Anatase<br>锐钛型钛白粉                    | A crystalline form of titanium dioxide having the second-highest refractive index of commonly used fillers<br>指一种特定晶形的二氧化钛, 在常用的填料中其折光指数位居第  |

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| Anionic<br>阴离子的                | Having a negative charge (usually balanced by counter-ions in the adjacent solution)<br>形容带有负电荷（通常被溶液中的反离子平衡）  |
| Anionic trash<br>阴离子垃圾         | Informal term meaning negatively charged colloidal and dissolved polymeric materials in paper furnish, usually coming from the wood<br>该术语用于指代纸料中带负电荷性的胶体物质或溶解的聚合物，这些成分通常来自木材  |
| Antichlors<br>去氯剂              | Additives such as sodium sulfite or hydrosulfite that reduce chlorine or related oxidants so that they do not attack wet-strength agents<br>指亚硫酸钠或亚硫酸氢钠等能消除氯气分子或其他类似氧化剂的助剂，可以使湿强剂免受氧化剂的影响  |
| Antifoam<br>抑泡剂                | A defoamer product that has been formulated with the aim of preventing the formation of visible foam, not killing existing visible foam<br>一种泡沫控制剂，其目的在于防止可见泡沫的产生，而不是将已有的可见泡沫消除  |
| Apparent density<br>表观密度       | The mass of a sample of paper per unit area, divided by its thickness, as measured by smooth platens at a defined pressure, usually in a stack of sheets<br>纸张单位面积的重量除以其厚度得到的值。一般针对一叠纸，采用光滑的压板在一定压力下进行测定                                     |
| Approach flow<br>流送系统，<br>上浆系统 | The part of a paper machine, including the pressure screens and intake manifold, just before the thin stock reaches the headbox<br>纸机的一部分，包括压力筛以及进浆多歧管，即稀浆到达流浆箱的直前部分   |
| Aragonite<br>文石型碳酸钙            | A crystalline form of precipitated calcium carbonate that tends to adopt a needle-like shape, often used in coatings<br>晶形倾向于以针状形态出现的一种沉淀碳酸钙，常用于纸张涂料   |
| Artificial cure<br>人工熟化        | Placement of paper, taken from a paper machine, into an oven to achieve an equivalent curing effect of the same paper being stored in a hot roll of paper for many hours<br>针对纸张的一种处置方法：直接从纸机上取得纸样，将其放入烘箱中加热熟化，使其效果达到纸张在热卷取的纸卷中保留几小时情况下获得的相当 |
| ASA<br>烯基琥珀酸酐                  | Alkenyl succinic anhydride, a synthetic sizing agent that usually is emulsified with cationic starch just before addition to a paper machine wet end   |

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|  | 全称为 <b>alkenyl succinic anhydride</b> ，即烯基琥珀酸酐，一种合成施胶剂，通常需在纸机现场用阳离子淀粉乳化后立即加入湿部使用   |
| <b>Ash content</b><br>灰分含量                 | <b>The amount of filler in paper, as determined by incineration (which can dehydrate the filler or convert it into a different chemical form)</b><br>纸张中填料的含量，通过高温灰化后测得（测定过程中填料可能脱水，或其化合物形式发生转变）   |
| <b>Auxo-chromes</b><br>助色基团                | <b>Chemical substituent groups on dye molecules that have the effect of changing the hue</b><br>染料分子上的取代基团，具有改变染料色调的作用。  |
| <b>Barrier chemistry</b><br>屏蔽保护法<br>钝化保护法 | <b>A very dilute spray of high-charge, water-loving cationic polymer, sometimes with a surfactant, continuously applied to a forming fabric or roll</b><br>指保护成型网或成型辊使其免受污染的一种方法，主要是向它们连续喷淋浓度很稀的亲水性高阳离子性高分子溶液，有时也掺入一定的表面活性剂  |
| <b>Basic dyes</b><br>碱性染料                  | <b>Colorant molecules that have a positive charge due to amine groups and have a strong affinity for the surfaces of high-yield fibers</b><br>分子结构中含有氨基而具有正电性的着色剂，与高得率浆纤维的表面具有很强的亲和力   |
| <b>Bentonite</b><br>膨润土                    | <b>An informal term for “montmorillonite”, a platy microparticle product often used in sequential addition with cationic PAM for retention and drainage and sometimes also for pitch control</b><br>“bentonite”是“montmorillonite”即蒙脱石的非正式叫法，是一种片状的微粒产品，往往与阳离子聚丙烯酰胺组合添加，以提高纸料的留着和滤水，有时也用于控制树脂沉积 |
| <b>Biocides</b><br>杀菌剂                     | <b>Chemical additives designed to kill slime-forming bacteria or fungi</b><br>用来杀死细菌或真菌的化学添加剂，防止腐浆的形成  |
| <b>Bleed fastness</b><br>耐渗坚牢度             | <b>The ability of a dye to remain attached to fibers in paper even when exposed to fluids or to sweaty hands</b><br>指纸张与液体或出汗的手等接触的情况下，纸张纤维上的染料能保持稳定的性能  |
| <b>Boil-out</b><br>停机清洗，<br>煮沸清洗           | <b>The occasional cleaning of a paper machine system, during a shut-down, by filling the system with a hot solution that usually contains detergent and either NaOH, an acid, or an enzyme</b><br>停机状态下在纸机系统中注入热的清洗液而进行的间歇型清洗，通常清洗液含有洗涤剂、氢氧化钠或酸、或生物酶   |
| <b>Breaking length</b>                     | <b>A measure of the tensile strength of paper; in theory, the</b>  |

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| 裂断长                                      | <p>maximum length of a strip of paper that can support itself without tensile failure</p> <p>纸张抗张强度的一个度量，理论上纸张样条在还没有达到抗张破裂时其被拉伸的最大长度</p>   |
| <p>Breaks of the web</p> <p>断纸，纸幅断裂</p>  | <p>Ripping of the paper as it is in the process of being made, resulting in lost production</p> <p>指纸张在生产过程中被扯断的现象，它造成生产损失</p>   |
| <p>Bridging</p> <p>桥联机理</p>              | <p>A mechanism of action of very-high-mass retention aid polymers, in which the molecules attach simultaneously onto two surfaces</p> <p>分子质量很高的助留剂聚合物的一种作用机制，要求一个聚合物分子同时连接到两个不同粒子的表面</p>  |
| <p>Brightness</p> <p>亮度</p>              | <p>The diffuse reflectivity of paper at a mean wavelength of light of 457 nm</p> <p>纸张对平均波长为 457nm 之可见光的漫反射率</p>   |
| <p>Britt jar</p> <p>布里特滤水罐</p>           | <p>The Dynamic Drainage/Retention Jar apparatus to evaluation effectiveness of retention aids by measuring the solids in filtrate passing through a screen in the absence of fiber mat formation</p> <p>一种罐状的动态滤水/留着装置，用于评价助留剂的使用效果。要求纸料在筛网上不形成纤维垫的情况下获得滤液，然后测定滤液中固形物的含量</p> |
| <p>Broke</p> <p>损纸</p>                   | <p>Paper trim or reject material from the paper machine or other paper mill operations that is repulped and used again to make paper</p> <p>纸张生产过程中纸机上产生的切边或其他操作过程中废弃的纸张，通过再次化浆后重新用于抄纸</p>   |
| <p>Brown-stock washers</p> <p>未漂浆洗浆机</p> | <p>Cylinder-type vat washers (usually) for removal of black liquor from unbleached kraft pulp</p> <p>圆柱型的筒式洗浆机，通常用于从未漂硫酸盐浆中除去黑液。</p>   |
| <p>Buffer</p> <p>缓冲液</p>                 | <p>A system of weak acid(s) or base(s) dissolved in water that tends to hold the pH near to a constant value when acid or base are added</p> <p>弱酸或弱碱的水溶液体系，在其中加入酸或碱时其 pH 值倾向于维持在稳定的值</p>  |
| <p>Bulk</p> <p>松厚度</p>                   | <p>The reciprocal of apparent density</p> <p>纸张表观密度的倒数</p>   |

注) 本小百科全部词汇见 <http://www4.ncsu.edu/~hubbe/Glossary.htm>